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Inside Wallops

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NASA'S Langley First Stop in Blast to Look at Impact Crater's Past

The Department of the Interior is drilling a hole in NASA's back yard. But officials at NASA's Langley Research Center don't mind. This National Research Laboratory sits on the edge of a huge crater where both agencies are collecting geological data from an ancient extraterrestrial event.

Thirty-five million years ago, a two-mile-wide bolide (meteor or comet) hit the tip of Virginia's Eastern Shore. When it struck, the fireball reshaped the land, disrupted the existing water table, and dislodged deeper sediment to higher levels across a 56-mile-wide area.

The Department of the Interior's U.S. Geological Survey (USGS) Chesapeake Bay Impact Crater Project is a multi-year, multi-agency study of the sombrero-shaped, underground valley. Langley is located on the outer rim of the York-James Peninsula crater area and is hosting the USGS research activity. The USGS has been taking core samples from a planned 2,700-foot-deep drill site since July.

The Chesapeake Bay impact crater is located within the boundary of the Coastal Plain ground-water flow model.

NASA will benefit from the drilling in the form of an atmospheric fingerprint left by the bolide's impact. A senior research scientist at Langley's Atmospheric Sciences Competency, Dr. Joel S. Levine, looks forward to the shared science and agency cooperation.

"The USGS drilling project at Langley will permit a detailed investigation of a very significant event in the history of our planet that affected all four components of the Earth system — the atmosphere, the ocean, the land, and the biosphere," said Levine. "We are working closely with USGS scientists to assess what new information about the Earth's early atmosphere may be obtained from analysis of the cores to be obtained during the drilling."

In addition, the USGS Western Earthquake Team is conducting a seismic reflection and refraction survey. This involves small, controlled, non-destructive explosions on Langley property to create underground geological pictures of the rim of the largest crater in North America.

The crater was discovered after core samples taken off the coast of New Jersey were compared to ones made in south-eastern Virginia. Along with a petroleum company's rock formation study made during an oil search in the Chesapeake Bay, the combined test data indicated a large crater. The USGS formally announced the discovery in 1994.

NASA's participation in this research is part of the agency's Earth Science Enterprise, a long-term research program dedicated to understanding how human-induced and natural changes affect our global environment.

Web sites for the Chesapeake Bay Impact Crater Project are at:

http://woodshole.er.usgs.gov/epubs/bolide/

http://marine.usgs.gov/fact-sheets/fs49-98/

http://water.usgs.gov/pubs/FS/FS-048-99/

Wallops Shorts……

Balloon Launch

A NASA scientific balloon was successfully launched from Ft. Sumner, N.M. on Sept. 25. The .83 million cubic foot balloon carried a cosmic and heliospheric physics experiment for Dr. Paul Evenson, University of Delaware. Float time was 25 hours, 29 minutes.

Fire Department Responses

Sept. 15 to Sept. 27
Aircraft Standbys — 105
Fire Alarms — 3
Aircraft Emergency — 1

100th Shuttle Flight Ready

The space shuttle will launch for the 100th time when Discovery lifts off, Oct. 5, on STS-92, an International Space Station assembly flight.

The space shuttle will have launched about 3 million pounds of cargo into space and 596 passengers. The shuttle fleet will cumulatively have spent almost 2½ years in orbit and amassed almost 15 years of passenger-hours in flight. More than 850 payloads will have flown, and the shuttle will have deployed more than 60 payloads and retrieved more than two dozen.

The shuttle has supported two space stations; made three maintenance flights to the Hubble Space Telescope; launched planetary missions to study Jupiter, Venus and the Sun; and conducted hundreds of studies of the effects of weightlessness on materials, plants, animals and human beings in on-board laboratories.

Although flying for two decades, the shuttle still will have more than three-quarters of its design lifetime available. Out of 100 flights designed for each orbiter, when STS-92 — the 100th overall flight for the program — is completed, Discovery will be the most-flown shuttle with 28 flights to its credit. Columbia will be second with 26 flights. Atlantis will have made 22 trips to space and Endeavour will have completed 14 flights.

General shuttle facts

* If the shuttle main engines pumped water instead of fuel, they would drain an average-sized swimming pool every 25 seconds.
* The two solid rocket boosters produce 44 million horsepower, equal to 14,700 locomotives.
* The discharge pressure of a shuttle main engine turbo pump could send a column of liquid hydrogen 36 miles into the air.
* The shuttle has more than 2.5 million parts including 230 miles of wire, 1,060 plumbing valves and connections, over 1,440 circuit breakers and more than 27,000 insulating tiles.

Fire Prevention Week
Oct. 8 - 14
"Fire Takes No Holiday"

Exit Drills in the Home

In 1995, 3,640 Americans died in home fires, and tens of thousands more were injured. People can survive even major fires in their homes if they are alerted to the fire, get out quickly and stay out.

How to Survive

Install smoke detectors and keep them in working order. Make an escape plan and "practice" it.

Plan Your Escape

Once a fire has started, there is no time to plan how to get out. Sit down with your family today, and make a step-by-step plan for escaping a fire.

Draw a floor plan of your home, marking two ways out of every room - especially sleeping areas. Discuss the escape routes with every member of your household. Agree on a meeting place, where every member of the household will gather to wait for the fire department. This allows you to count heads and inform the fire department if anyone is missing or trapped inside.

Practice your escape plan at least twice a year. Have a fire drill in your home. Appoint someone to be the monitor, and have everyone participate. A fire drill is not a race. Get out quickly, but carefully.

Make Your Exit Drill Realistic

Pretend that some exits are blocked by fire, and practice alternative escape routes. Pretend that the lights are out and that some escape routes are filling with smoke.

Be Prepared

Make sure everyone in the household can unlock all doors and windows quickly, even in the dark. Windows or doors with security bars need to be equipped with quick-release devices, and everyone in the household should know how to use them.

If you live in a multi-story house be sure there is a safe way to reach the ground, such as a fire-resistant ladder. Make special arrangements for children, older adults and people with disabilities. People who have difficulty moving should have a phone in their sleeping area and, if possible, should sleep on the ground floor.

Test doors before opening them.

While kneeling or crouching at the door, reach up as high as you can and with the back of your hand touch the door, the knob, and the crack between the door and its frame. If you feel any warmth at all, use another escape route. If the door feels cool, open it with caution. Put your shoulder against the door and open it slowly. Be prepared to slam it shut if there is smoke or flames on the other side.

If you are trapped, close all doors between you and the fire. Stuff the cracks around the doors to keep out smoke. Wait at a window and signal for help with a flashlight or by waving a light colored cloth. If there is a phone in the room, call the fire department and report exactly where you are.

Get Out Fast . . .

In case of a fire, don't stop for anything. Do not try to rescue possessions or pets. Go directly to your meeting place, and then call the fire department from a neighbor's phone, a portable phone, or an alarm box. Every member of your household should know how to call the fire department.

Crawl low under smoke.

Smoke contains deadly gases, and heat rises. During a fire, cleaner air will be near the floor. If you encounter smoke when using your primary exit, use an alternative escape route. If you must exit through smoke, crawl on your hands and knees, keeping your head 12 to 24 inches above the floor.

. . . and stay out

Once you are out of your home, don't go back for any reason. If people are trapped, the firefighters have the best chance of rescuing them. They have the training, experience, and protective equipment needed to enter burning buildings.

John Hickman, (right) Range and Mission Management Office, recently received a 10-year service pin and certificate from Arnold Torres, Director of Suborbital and Special Orbital Projects.

EAP Discussion Group

The topic for the Employee Assistance Program October discussion group is "Coping with the Unknown in the Workplace". Dr. Chris Garner, an EAP affiliate counselor will lead the group.

Employees are invited to attend the discussion to be held on Oct. 12 at 11:30 a.m. in Building F-160, Room C-164.

Give the gift of life
Give blood
Red Cross Blood Drive

Wallops Flight Facility
October 24, 2000
9:30 a.m. - 2:30 p.m.
Bldg. F-3

Call the Health Unit, x1266 for an appointment time.

Your donation will be appreciated more than ever to bolster the blood supply in this area. Refreshments will be served following your donation. Our local Red Cross representative will provide a special thank-you gift to all first time donors (and many other lucky donors).

For more information on blood donation: http://www.redcross.org/biomed/help/helpbd.html

From FEDweek
Sept. 27 Issue

Civil Service Pay Raise Still on Track

The measure's provision for a general employee pay raise has not been controversial. The scheduled 3.7 percent January 2001 raise will be effective with the first full pay period of the new year. Since pay periods vary among agencies, employees will see the raise in their paychecks at varying times of the month. Under the bill's provisions, wage grade employees, who are under a separate locality system and who get their raises at varying times of a fiscal year, would have their increases capped at the average amount paid to GS employees.

Outreach Program

An Outreach Program that focuses on reading, math and science will start on Saturday, Oct. 21, for children 5 to 12 years old. For more information, contact Dave Smith, x1316 or Roland Wescott, x1624. The program is sponsored by the Wallops Flight Facility Black History Club and the Morale Activities Committee.

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http://www.wff.nasa.gov